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NIXON & VANDERHYE, PC			FEARER, MARK D	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/500,308	<b>Applicant(s)</b> BACKLUND, INGEMAR
	<b>Examiner</b> MARK D. FEARER	<b>Art Unit</b> 2443

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 20 November 2009.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-5,7,8,10-13 and 22-30 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-5,7-8, 10-13 and 22-30 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/06)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

1. Applicant's Amendment filed 22 November 2009 is acknowledged.
2. Claims 1-5, 7-8, 10-13 and 22-30 are pending in the present application.
3. This FINAL action of 02 October 2009 is withdrawn.

***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 22-30 are rejected under 35 USC 101 since the claims are directed to non-statutory subject matter. Claims 22-30 recite a computer program product that includes a computer readable medium which appears to cover both transitory and non-transitory embodiments. The United States Patent and Trademark Office (USPTO) is required to give claims their broadest reasonable interpretation consistent with the specification during proceedings before the USPTO. See *In re Zletz*, 893 F.2d 319 (Fed. Cir. 1989) (during patent examination the pending claims must be interpreted as broadly as their terms reasonably allow). The broadest reasonable interpretation of a claim drawn to a computer readable medium (also called machine readable medium and other such variations) typically covers forms of non-transitory tangible media and transitory propagating signals *per se* in view of the ordinary and customary meaning of

computer readable media, particularly when the specification is silent. See MPEP 2111.01. When the broadest reasonable interpretation of a claim covers a signal *per se*, the claim must be rejected under 35 U.S.C. § 101 as covering non-statutory subject matter. See *In re Nuijten*, 500 F.3d 1346, 1356-57 (Fed. Cir. 2007) (transitory embodiments are not directed to statutory subject matter) and *Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35 U.S.C. § 101*, Aug. 24, 2009; p. 2.

The Examiner suggests that the Applicant add the limitation "non-transitory computer readable medium" to the claim(s) in order to properly render the claims in statutory form in view of their broadest reasonable interpretation in light of the originally filed specification.

#### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-5, 7-8, 10-13 and 22-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Puuskari (US 6728208 B1) in view of Mora (US 20030018793 A1) and in further view of Vange et al. (US 7127518 B2).

Consider claims 1, 5 as applied to claim 1, 22, and 27 as applied to claim 22. Puuskari discloses a method in a data communication system wherein data is transmitted by use of at least two protocols that are capable of re-transmission of data, each of said protocols being implemented in at least two nodes of said data communication system, the implementation of a protocol implemented in a transmitting node being a transmitting protocol entity and the implementation of a protocol in a receiving node being a receiving protocol entity, one of said at least two protocols capable of re-transmission of data being a higher layer protocol than another of said at least two protocols, said another protocol therefore being a lower layer protocol ("If both reliable and unreliable paths are employed between the MS and the SGSN, it is required that the LLC layer multiplexes several NSAPI of one user onto several SAPIs in the MS and SGSN. Logical Link Entities (LLE) may establish all connections, i.e. the SAPIs, beforehand or only on demand. These SAPIs/links should not be torn down immediately after serving one request. A timer, for example, may control the tearing down of LLC connections associated with SAPIs. The SNDC layer decides, based on the TLLI and the delay class or optionally also the reliability class, which SAPI it will use to transfer the packet in question. The SNDC layer can perform segmentation of SN-PDUs as usual. Then, the SNDC layer gives the packet to the LLC layer using the

appropriate SAP. The LLC layer transmits the packet over the LLC/radio connection as usual. At the other end, the SNDL layer receives packets from the different LLEs and associates them with the correct NSAPIs. Ordering of packets is not essential because packets using different QoS either belong to different application-level connections or are reordered based on their QoS values, which is the purpose of QoS values in the first place.") column 14 lines 33-53).

However, Puuskari does not explicitly teach a system and method of transmitting, from a higher layer transmitting protocol entity, a protocol data unit to a lower layer transmitting protocol entity from said lower layer transmitting protocol entity, said transmission result reporting the result of the transmission of said protocol data unit by said lower layer transmitting protocol entity wherein the higher layer transmitting protocol entity does not re-provide the protocol data unit to the lower layer transmitting protocol entity until after it has received the transmission result.

Mora discloses a system and method of a reliable transport layer protocol in low performance 8-bit microcontrollers comprising a method of transmitting, from a higher layer transmitting protocol entity, a protocol data unit (packet) to a lower layer transmitting protocol entity from said lower layer transmitting protocol entity, said transmission result reporting the result of the transmission of said protocol data unit by said lower layer transmitting protocol entity wherein the higher layer transmitting protocol entity does not re-provide the protocol data unit to the lower layer transmitting protocol entity until after it has received the transmission result.

[Mora, paragraph 0107] If the application layer asks for an acknowledge service (520), the packet type takes the corresponding value of 0.times.01, the retry timer is set and the packet ID takes the value in the ID\_Counter (522). ID\_Counter is an increasing counter which stores the actual value to be assigned to the packet ID. By sending sequential packet ID numbers, the destination system, if needed, can notice about the loss of a message. When it reaches the maximum value 255 it goes back to 1. Finally, the packet is sent to the next layer, the UDP layer (518).

Puuskari discloses a method in a data communication system wherein data is transmitted by use of at least two protocols that are capable of re-transmission of data, each of said protocols being implemented in at least two nodes of said data communication system, the implementation of a protocol implemented in a transmitting node being a transmitting protocol entity and the implementation of a protocol in a receiving node being a receiving protocol entity, one of said at least two protocols capable of re-transmission of data being a higher layer protocol than another of said at least two protocols, said another protocol therefore being a lower layer protocol upon which the claimed invention can be seen as an improvement.

Mora teaches a prior art comparable system and method of a reliable transport layer protocol in low performance 8-bit microcontrollers comprising a method of transmitting, from a higher layer transmitting protocol entity, a packet to a lower layer transmitting protocol entity from said lower layer transmitting protocol entity, said transmission result reporting the result of the transmission of said packet by said lower layer transmitting protocol entity wherein the higher layer transmitting protocol entity does not re-provide the packet to the lower layer transmitting protocol entity until after it has received the transmission result.

Thus, the manner of enhancing a particular device (system and method of a reliable transport layer protocol in low performance 8-bit microcontrollers comprising a method of transmitting, from a higher layer transmitting protocol entity, a protocol data unit (packet) to a lower layer transmitting protocol entity from said lower layer transmitting protocol entity, said transmission result reporting the result of the transmission of said protocol data unit by said lower layer transmitting protocol entity wherein the higher layer transmitting protocol entity does not re-provide the protocol data unit to the lower layer transmitting protocol entity until after it has received the transmission result) was made part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in Mora. Accordingly, one of ordinary skill in the art would have been capable of applying this known improvement technique in the same manner to the prior art method in a data communication system wherein data is transmitted by use of at least two protocols that are capable of re-transmission of data, each of said protocols being implemented in at least two nodes of said data communication system, the implementation of a protocol implemented in a transmitting node being a transmitting protocol entity and the implementation of a protocol in a receiving node being a receiving protocol entity, one of said at least two protocols capable of re-transmission of data being a higher layer protocol than another of said at least two protocols, said another protocol therefore being a lower layer protocol of Puuskari and the results would have been predictable to one of ordinary skill in the art, namely, one skilled in the art would have readily recognized a system and method of a reliable transport layer protocol.

However, Puuskari, as modified by Mora, does not explicitly teach a system and method of receiving, in said higher layer transmitting protocol entity, said transmission result; deciding, responsive to said transmission result, whether the higher layer transmission protocol entity should re-provide said lower layer transmitting protocol entity with said protocol data unit; and identifying, by the higher layer transmitting protocol entity in communication with the lower layer transmitting protocol entity, said protocol data unit by use of an identifier.

Vange et al. discloses a system and method for implementing application functionality within a network infrastructure comprising a method of receiving, in said higher layer transmitting protocol entity (blending of datagrams), said transmission result; deciding, responsive to said transmission result, whether the higher layer transmission protocol entity should re-provide said lower layer transmitting protocol entity with said protocol data unit; and identifying, by the higher layer transmitting protocol entity in communication with the lower layer transmitting protocol entity, said protocol data unit by use of an identifier (acknowledgement).

[column 10, lines 38-50] The blending of request datagrams results in fewer request: acknowledge pairs across the TMP link 202 as compared to the number required to send the packets individually between front-end 201 and back-end 203. This action reduces the overhead associated with transporting a given amount of data, although conventional request: acknowledge traffic is still performed on the links coupling the front-end 201 to client 205 and back-end 203 to a web server. Moreover, resend traffic is significantly reduced further reducing the traffic. Response time is further improved for select privileged users and for specially marked resources by determining the priority for each HTTP transmission.

Puuskari, as modified by Mora, discloses a method in a data communication system wherein data is transmitted by use of at least two protocols that are capable of

re-transmission of data, each of said protocols being implemented in at least two nodes of said data communication system, the implementation of a protocol implemented in a transmitting node being a transmitting protocol entity and the implementation of a protocol in a receiving node being a receiving protocol entity, one of said at least two protocols capable of re-transmission of data being a higher layer protocol than another of said at least two protocols, said another protocol therefore being a lower layer protocol; and a method of transmitting, from a higher layer transmitting protocol entity, a packet to a lower layer transmitting protocol entity from said lower layer transmitting protocol entity, said transmission result reporting the result of the transmission of said packet by said lower layer transmitting protocol entity wherein the higher layer transmitting protocol entity does not re-provide the packet to the lower layer transmitting protocol entity until after it has received the transmission result upon which the claimed invention can be seen as an improvement.

Vange et al. teaches a prior art comparable system and method for implementing application functionality within a network infrastructure comprising a method of receiving, in said higher layer transmitting protocol entity, said transmission result; deciding, responsive to said transmission result, whether the higher layer transmission protocol entity should re-provide said lower layer transmitting protocol entity with said protocol data unit; and identifying, by the higher layer transmitting protocol entity in communication with the lower layer transmitting protocol entity, said protocol data unit by use of an identifier.

Thus, the manner of enhancing a particular device (system and method for implementing application functionality within a network infrastructure comprising a method of receiving, in said higher layer transmitting protocol entity, said transmission result; deciding, responsive to said transmission result, whether the higher layer transmission protocol entity should re-provide said lower layer transmitting protocol entity with said protocol data unit; and identifying, by the higher layer transmitting protocol entity in communication with the lower layer transmitting protocol entity, said protocol data unit by use of an identifier) was made part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in Vange et al. Accordingly, one of ordinary skill in the art would have been capable of applying this known improvement technique in the same manner to the prior art method in a data communication system wherein data is transmitted by use of at least two protocols that are capable of re-transmission of data, each of said protocols being implemented in at least two nodes of said data communication system, the implementation of a protocol implemented in a transmitting node being a transmitting protocol entity and the implementation of a protocol in a receiving node being a receiving protocol entity, one of said at least two protocols capable of re-transmission of data being a higher layer protocol than another of said at least two protocols, said another protocol therefore being a lower layer protocol; and identifying, by the higher layer transmitting protocol entity in communication with the lower layer transmitting protocol entity, said protocol data unit by use of an identifier; and a method of transmitting, from a higher layer transmitting protocol entity, a packet to a lower layer transmitting protocol entity from

said lower layer transmitting protocol entity, said transmission result reporting the result of the transmission of said packet by said lower layer transmitting protocol entity wherein the higher layer transmitting protocol entity does not re-provide the packet to the lower layer transmitting protocol entity until after it has received the transmission result of Puuskari, as modified by Mora, and the results would have been predictable to one of ordinary skill in the art, namely, one skilled in the art would have readily recognized a system and method for implementing application functionality within a network infrastructure.

Consider claim 2, as applied to claim 1. Puuskari, as modified by Mora and Vange et al., discloses a method wherein encapsulation of data is carried out by means of protocols located in different nodes ("GPRS transparently transports PDP PDUs between external networks and MSs. Between the SGSN and the GGSN, PDP PDUs are routed and transferred with the IP protocol. The GPRS Tunnelling Protocol transfers data through tunnels. A tunnel is identified by a tunnel identifier (TID) and a GSN address. All PDP PDUs are encapsulated and decapsulated for GPRS routing purposes. Encapsulation functionality exists at the MS, at the SGSN, and at the GGSN. Encapsulation allows PDP PDUs to be delivered to and associated with the correct PDP context in the MS, the SGSN, or the GGSN. Two different encapsulation schemes are used; one for the GPRS backbone network between two GSNs, and one for the GPRS connection between SGSN and MS.") Puuskari, column 9 lines 52-65).

Consider claims 3 as applied to claim 1, and 23 as applied to claim 22. Puuskari, as modified by Mora and Vange et al., discloses a method wherein said protocol data unit (packet) is identified by an identifier (Mora, paragraph 0107) local to the communication between the higher layer transmitting protocol entity and the lower layer transmitting protocol entity ("Between SGSN and MS, a SGSN or MS PDP context is uniquely addressed with a TLLI and a NSAPI pair. TLLI is assigned when the MS initiates the Attach function. NSAPIs are assigned when the MS initiates the PDP Context Activation function. ") Puuskari, column 10 lines 6-10).

Consider claims 4 as applied to claim 3, 24 as applied to claim 22, and 29 as applied to claim 28. Puuskari, as modified by Mora and Vange et al., discloses a method wherein said identifier is assigned to said protocol data unit by said higher transmitting protocol entity (Puuskari, column 10 lines 6-10).

Consider claim 7, as applied to claim 1. Puuskari, as modified by Mora and Vange et al., discloses a method wherein said transmission result is transmitted to said higher layer transmitting protocol entity in a message which is transparently relayed by some or all of any intermediate protocol entities that are logically positioned (Mora, paragraph 0006) between the higher layer transmitting protocol entity and the lower layer transmitting protocol entity ("The serving GPRS support node SGSN is a node which serves the mobile station MS. Each support node SGSN controls a packet data

service within the area of one or more cells in a cellular packet radio network, and therefore, each support node SGSN is connected (Gb interface) to a certain local element of the GSM system. This connection is typically established to the base station system BSS, i.e. to base station controllers BSC or to a base station BTS. The mobile station MS located in a cell communicates with a base station BTS over a radio interface and further with the support node SGSN to the service area of which the cell belongs through the mobile communication network. In principle, the mobile communication network between the support node SGSN and the mobile station MS only relays packets between these two. To realize this, the mobile communication network provides packet-switched transmission of data packets between the mobile station MS and the serving support node SGSN. It has to be noted that the mobile communication network only provides a physical connection between the mobile station MS and the support node SGSN, and thus its exact function and structure is not significant with respect to the invention. The SGSN is also provided with a signaling interface Gs to the visitor location register VLR of the mobile communication network and/or to the mobile services switching centre, e.g. signaling connection SS7. The SGSN may transmit location information to the MSC/VLR and/or receive requests for searching for a GPRS subscriber from the MSC/VLR.") Puuskari, column 6lines 57-67 and column 7 lines 1-16).

Consider claims 8 as applied to claim 1, and 28 as applied to claim 27. Puuskari, as modified by Mora and Vange et al., discloses a method wherein said protocol data

unit is identified by an identifier assigned by the lower layer (Mora, paragraphs 0089-0090) transmitting protocol entity ("The Network layer Service Access Point Identifier (NSAPI) and Temporary Logical Link Identity (TLLI) are used for network layer routing. A NSAPI/TLLI pair is unambiguous within a routing area. In the MS, NSAPI identifies the PDP service access point (PDP-SAP). In the SGSN and GGSN, NSAPI identifies the PDP context associated with a PDP address. Between the MS and SGSN, TLLI unambiguously identifies the logical link. NSAPI is a part of the tunnel identifier (TID). TID is used by the GPRS Tunnelling protocol between GSNs to identify a PDP context. A TID consists of an IMSI and a NSAPI. The combination of IMSI and NSAPI uniquely identifies a single PDP context. The TID is forwarded to the GGSN upon PDP Context Activation and it is used in subsequent tunneling of user data between the GGSN and the SGSN to identify the MS's PDP contexts in the SGSN and GGSN. The TID is also used to forward N-PDUs from the old SGSN to the new SGSN at and after an inter SGSN routing update.") Puuskari, column 9 lines 29-46).

Consider claim 10, as applied to claim 1. Puuskari, as modified by Mora and Vange et al., discloses a method wherein said higher layer transmitting protocol entity and said lower layer transmitting protocol entities are located within different nodes ("In order to send and receive GPRS data, the MS shall activate the packet data address that it wants to use, by requesting a PDP activation procedure. This operation makes the MS known in the corresponding GGSN, and interworking with external data

networks can commence. More, particularly a PDP context is created in the MS and the GGSN and the SGSN.") Puuskari, column 7 lines 59-65).

Consider claims 11, and 12 as applied to claim 11. Puuskari, as modified by Mora and Vange et al., discloses a method wherein a radio interface is a radio interface in a mobile radio communication system ("Logical Link Control (LLC) provides a highly reliable ciphered logical link. LLC shall be independent of the underlying radio interface protocols in order to allow introduction of alternative GPRS radio solutions with minimum changes to the NSS. LLC is specified in GSM 04.64.") Puuskari, column 8 lines 66-67 and column 9 lines 1-3).

Consider claims 13 as applied to claim 12, and 25-26 as applied to claim 22. Puuskari, as modified by Mora and Vange et al., discloses a method wherein a mobile radio communication system is a mobile radio communication system operating according to the General Packet Radio System standard; and the higher layer transmitting protocol entity is a Logical Link Control protocol and the lower layer transmitting protocol entity is a Radio Link Control/Media Access Control protocol ("Current GPRS QoS profile contains five parameters: service precedence, delay class, reliability, and mean and peak bit rates. Service precedence defines some kind of priority for the packets belonging to a certain PDP context. Delay class defines mean and maximum delays for the transfer of each data packet belonging to that context.

Reliability in turn specifies whether acknowledged or unacknowledged services will be used at LLC and RLC (Radio Link Control) layers. In addition, it specifies whether protected mode should be used in case of unacknowledged service, and whether the GPRS backbone should use TCP or UDP to transfer data packets belonging to the PDP context. Furthermore, these varying QoS parameters are mapped to four QoS levels available at LLC layer.") Puuskari, column 2 lines 22-35).

Consider claim 30, as applied to claim 28. Puuskari, as modified by Mora and Vange et al., discloses a method wherein an identifier is assigned to the protocol data unit by said lower layer transmitting protocol entity (Puuskari, column 9 lines 29-46).

***Response to Arguments***

8. Applicant's arguments filed 20 November 2009 with respect to claims 1-5, 7-8 and 10-13 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this Office Action should be faxed to (571) 273-8300 or mailed to:

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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Mark Fearer whose telephone number is (571) 270-1770. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tonia Dollinger can be reached on (571) 272-4170. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Mark Fearer  
/M.D.F./  
April 21, 2010

/George C Neurauter, Jr./  
Primary Examiner, Art Unit 2443